

THE MINERAL INDUSTRY OF IRAQ

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In 2004, Iraq attempted to recover from the post-conflict insurgency that has engulfed the country since 2003. Problems with power availability, security, and transportation adversely affected the nation. Rehabilitation of the country's industrial sector, especially mineral fuel production and processing, and associated infrastructure slowly continued. Attacks by insurgents on electricity generation and distribution facilities hampered attempts to restore electrical power to the country. The lack of electrical power resulted in an increased demand for petroleum products to fuel small electrical generators, and attacks by insurgents on oil facilities resulted in decreased flow of crude oil to export terminals and domestic refineries. The resultant crude oil supply problems and the frequent power outages adversely affected domestic petroleum refineries, which resulted in a shortage of locally-produced petroleum products. The Government was forced to import about \$2.6 billion worth of refined petroleum products to cover domestic demand. In 2004, increased car bomb attacks in urban areas also significantly escalated the demand for cement and glass (International Monetary Fund, 2005, p. 14).

Iraq's gross domestic product (GDP) based on purchasing power parity was estimated to be about \$54.4 billion in 2004, and the GDP per capita based on purchasing power parity was estimated to be \$2,100. In 2003 (the latest year for which detailed data were available), nearly 53% of the GDP was attributed to the crude oil sector. With the exception of cement, production of other mineral and mineral-based commodities was negligible (International Monetary Fund, 2005, p. 3; U.S. Central Intelligence Agency, 2005¹).

Trade

In 2004, crude oil exports of almost 541 million barrels were valued at \$17.3 billion. Iraq's other exports were valued at \$452 million. Total Iraqi imports were valued at \$19.6 billion (International Monetary Fund, 2005, p. 14, 15).

In 2004, an average of 656,000 barrels per day (bbl/d) of exported Iraqi crude oil reached the United States; this volume accounted for more than 42% of total Iraqi crude oil exports and about 5% of gross U.S. crude oil imports. The United States had imported an average of 481,000 bbl/d from Iraq in 2003, 459,000 bbl/d in 2002, and 795,000 bbl/d in 2001 (U.S. Energy Information Administration, 2005a, b).

Government Policies and Programs

The Foreign Direct Investment Law of 2003 restricted foreign ownership in the production of minerals and oil and initial processing. In May 2004, the Coalition Provisional Authority returned full control of the Iraqi industrial sector to the Ministry of Industry and Minerals.

Commodity Review

Industrial Minerals

Nitrogen.—In early 2004, ammonia and urea production resumed at the Khor al-Zubair plant of the General Co. for Fertilizer (Middle East Economic Digest, 2004).

Mineral Fuels

Natural Gas.—Iraq's oil companies flared about one-third of the natural gas they extracted, most of which was associated with oil production. The Government proposed to exploit two undeveloped gasfields in 2005 and agreed to supply about 991,000 cubic meters per day of natural gas to Kuwait by October 2005 (Gulf News, 2004§; Kuwait Ministry of Oil, 2004§).

Petroleum.—In December, the Iraqi Ministry of Oil awarded a contract to develop the Khurmala Dome Field in northern Iraq to Avrasya Technology Engineering and Construction Inc. of Turkey, Dynamic Processing Solutions Ltd. of the United Kingdom, and the Kar Construction and Engineering Group of Iraq. The contract was the first oilfield development contract issued by the new Government.

In 2004, Iraqi crude oil production capacity was about 2.5 million barrels per day (Mbbbl/d). Actual crude oil output, which ranged from less than 1.8 Mbbbl/d to about 2.4 Mbbbl/d, was limited by export capacity, which was impacted by the frequent acts of sabotage on the country's pipeline network. The value of lost production attributed to insurgent attacks on Iraqi oil facilities from March 2003 to December 2004 was estimated by the Ministry of Oil to be about \$8 billion. In 2004, crude oil exports averaged about 1.43 Mbbbl/d via the offshore terminals near Basra in the south—Khor Al-Amaya, which reopened in February, and Mina al-Bakr—and about 120,000 bbl/d via the northern pipeline to Ceyhan, Turkey. The northern pipeline was a frequent target of sabotage and was closed for repairs for much of the year (Middle East Economic Digest, 2005; Hafidh, 2004§; Khaleej Times Online, 2005§).

¹References that include a section mark (§) are found in the Internet References Cited section.

Iraq's crude oil refineries operated at about 100,000 bbl/d less than nameplate capacity, which was more than 650,000 bbl/d, because of variable crude oil supply, electrical power shortages, sabotage, years of spare parts shortages under United Nations' sanctions that had resulted in jury-rigged operations, and unrepaired war damage. Despite processing about 200 million barrels in 2004, refined petroleum product demand exceeded the domestic supply, which forced the Government to import refined products. The significantly increased domestic demand for petroleum products resulted in the Government's proposal for the construction of two new oil refineries with a total capacity of more than 600,000 bbl/d (Slevin, 2003; Middle East Economic Digest, 2005).

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- Slevin, Peter, 2003, Coaxing an aging oil refinery back to life: Washington Post, The, April 29, p. A11.
- U.S. Energy Information Administration, 2005a, Table 3.3a—Petroleum imports from Bahrain, Iran, Iraq, and Kuwait: Washington, DC, U.S. Energy Information Administration, Monthly Energy Review, July, p. 48.
- U.S. Energy Information Administration, 2005b, Table 3.3h—Petroleum imports from Trinidad and Tobago, United Kingdom, U.S. Virgin Islands, other non-OPEC, total non-OPEC, and total imports: Washington, DC, U.S. Energy Information Administration, Monthly Energy Review, July, p. 55.

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TABLE 1
IRAQ: ESTIMATED PRODUCTION OF MINERAL COMMODITIES^{1, 2}

(Thousand metric tons unless otherwise specified)

| Commodity ³ | 2000 | 2001 | 2002 | 2003 | 2004 | |
|--|----------------------------|------------------|--------------------|-----------------------|---------|----------------------|
| METALS | | | | | | |
| Steel, crude | 50 | 50 | -- | -- | -- | |
| INDUSTRIAL MINERALS | | | | | | |
| Cement, hydraulic: | | | | | | |
| Portland | 6,000 | 6,000 | 6,834 ⁴ | 1,901 ^{r, 4} | 2,500 | |
| White | 175 | 158 ^r | 175 | 54 ^{r, 4} | 15 | |
| Nitrogen, N content of ammonia | 200 | 280 | 532 ⁴ | -- ⁴ | 30 | |
| Phosphate rock, beneficiated, phosphorus pentoxide content | 200 | 100 | 100 | 10 | 30 | |
| Salt | 300 | 300 | 203 ⁴ | 50 ⁴ | 50 | |
| Sulfur, elemental: | | | | | | |
| Native, Frasch | 300 | 300 | 300 | 50 | -- | |
| Byproduct ⁵ | 50 ^r | 50 ^r | 50 ^r | 1 | 20 | |
| Total | 350 ^r | 350 ^r | 350 ^r | 51 | 20 | |
| MINERAL FUELS AND RELATED MATERIALS | | | | | | |
| Gas, natural: | | | | | | |
| Gross | million cubic meters | 7,500 | 7,000 | 7,000 | 4,000 | 7,000 |
| Dry | do. | 3,000 | 2,920 | 2,900 | 1,500 | 2,900 |
| Natural gas plant liquids | thousand 42-gallon barrels | 4,000 | 4,000 | 4,000 | 2,000 | 2,000 |
| Petroleum: | | | | | | |
| Crude, including lease condensate | do. | 937,000 | 860,000 | 740,000 | 490,000 | 737,940 ⁴ |
| Refinery products | do. | 140,000 | 170,000 | 170,000 | 50,000 | 50,000 |

^rRevised. -- Zero.

¹Includes data available through August 2005.

²Estimated data are rounded to no more than three significant digits.

³In addition to commodities listed, the following also may have been produced but information is inadequate to estimate output: secondary aluminum, clay, fertilizers, gypsum, secondary lead, lime, limestone, industrial (glass or silica) sand, sand and gravel, and stone.

⁴Reported figure.

⁵From petroleum and natural gas processing.

TABLE 2
IRAQ: STRUCTURE OF THE CEMENT INDUSTRY IN 2004

(Metric tons unless otherwise specified)

| Major operating companies, major equity owners, and plants | Process type and location of main facilities | 2004 operating capacity | Annual design capacity |
|---|---|-------------------------------|------------------------------|
| <u>Iraqi Cement Co. (Government, 100%)</u> | | | |
| Al Tamim Cement Plant | 2 dry process lines at Kirkuk | 150,000 | 2,000,000 |
| Kubaisa Cement Plant | 2 dry process lines at Kubaisa | 150,000 | 2,000,000 |
| Al Qaim Cement Plant | 1 dry process line at Al Qaim | 90,000 | 1,000,000 |
| Fallujah White Cement Plant | 3 dry process lines at Fallujah | 50,000 | 300,000 |
| Fallujah Cement Plant | 2 wet process lines at Fallujah | -- | 200,000 |
| <u>Northern Cement Co. (Government, 100%)</u> | | | |
| Sinjar Cement Plant | 2 dry process lines at Mosul | 290,000 | 1,200,000 |
| Badoosh III Cement Plant | 1 dry process line at Mosul | 250,000 | 1,000,000 |
| Badoosh II Cement Plant | 2 wet process lines at Mosul | 130,000 | 700,000 |
| Hamam Al Alil II Cement Plant | 1 wet process line at Mosul | 15,000 | 450,000 |
| Hamam Al Alil I Cement Plant | 2 wet process lines at Mosul | -- | 200,000 |
| Badoosh I Cement Plant | do. | -- | 190,000 |
| <u>Southern Cement Co. (Government, 100%)</u> | | | |
| Karbala Cement Plant | 2 dry process lines at Karbala | 90,000 | 2,000,000 |
| Muthena Cement Plant | 2 dry process lines, 37 kilometers from Muthena | 220,000 | 2,000,000 |
| Al Najaf Al Ashref Cement Plant | 4 wet process lines at Kufa | 420,000 | 1,800,000 |
| Um Qasr | 1 dry process line at Um Qasr | 60,000 | 500,000 |
| Al Jinoob Cement Plant | 1 wet process line at Samawa | 25,000 | 450,000 |
| Samawa Cement Plant | do. | -- | 400,000 |
| Kufa I Cement Plant | 1 wet process line at Kufa | 145,000 | 200,000 |
| Al Sadaa Cement Plant | 2 wet process lines near Sadat Al Hindia | 72,000 | 150,000 |
| Tasluja Cement Plant (Kurdistan Regional Government) | 2 dry process lines near Suleimaniyah | 300,000 | 2,300,000 |
| United Cement Co. (Kurdistan Regional Government) | 2 wet process lines at Sarchinar | 100,000 | 250,000 |
| Total | | 2,557,000 | 19,290,000 |

-- Negligible or no production.

Sources: The European Cement Association, company reports, press articles, and U.S. Department of Commerce.